



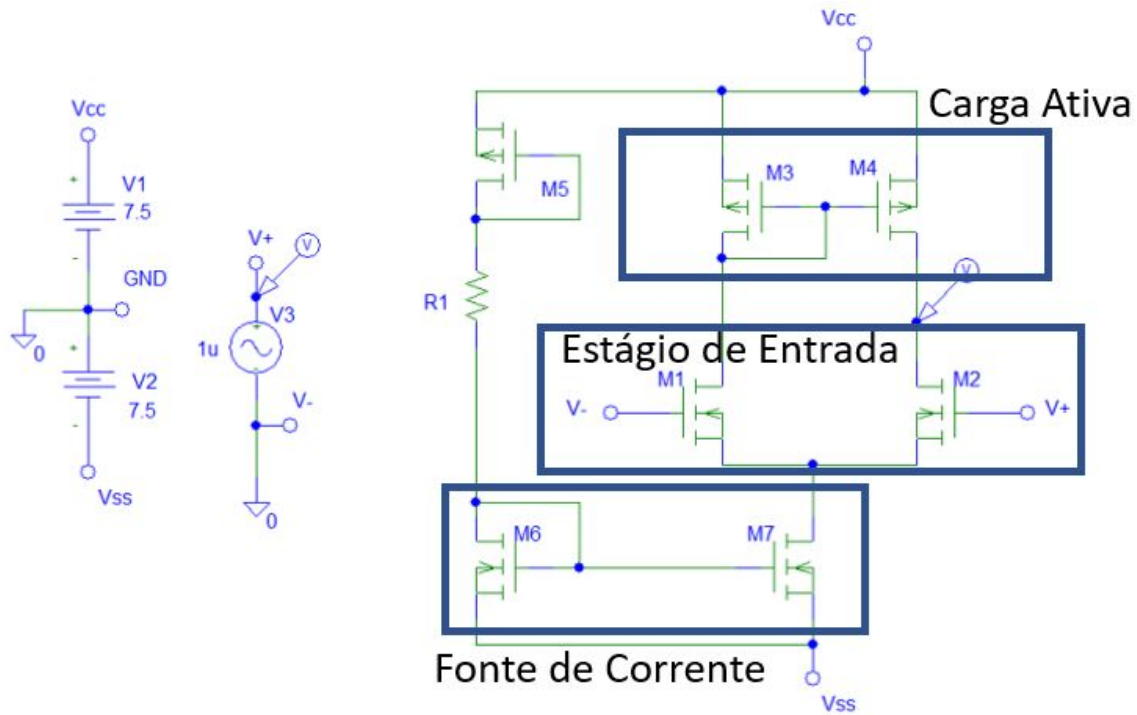
## **Lista de Exercícios SPICE II**

Eduardo Guimarães

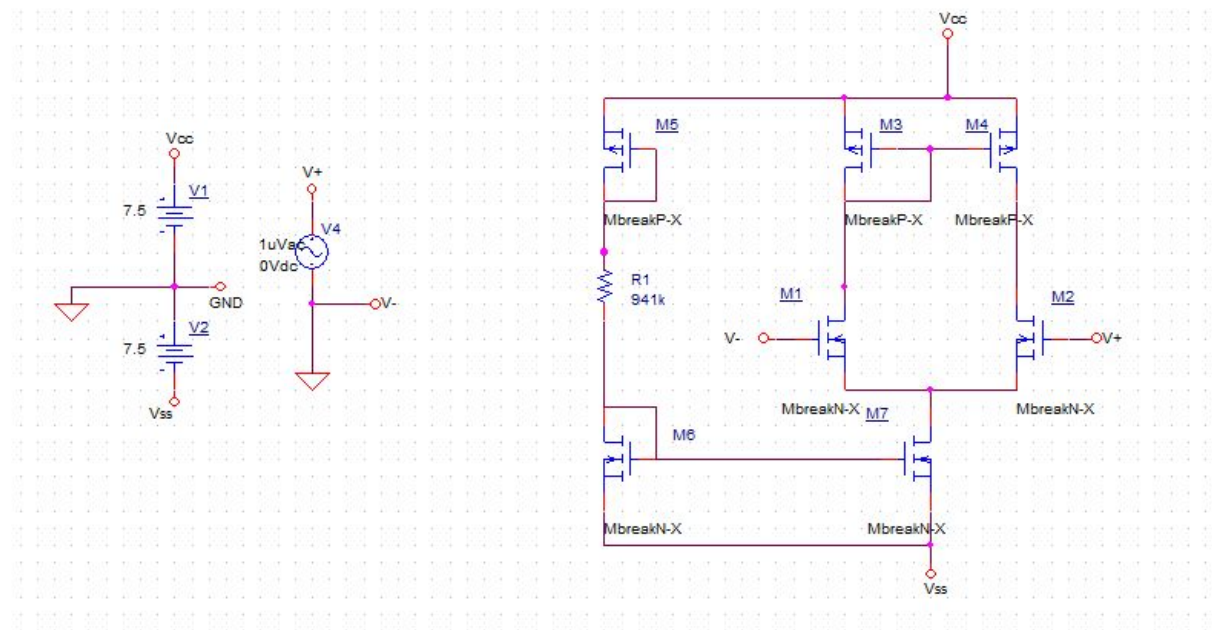
166754

Maurício Abreu

174725



### Circuito final no SPICE



**Cálculos:**

$$I_{ref} = 12,5 * 10^{-6} A *$$

$$W = 0,2 * 10^{(-5)}, L = 0,1 * 10^{(-5)}$$

$$I_{ref} = 1/2 * k'n * (W/L) * (V_{ov})^2$$

$$(V_{ov}) = 1,118033989 V$$

$$(V_{gs}) = V_{ov} + V_t = 1,618033989 V$$

$$R1 = (V_{cc} + V_{ss} - 2 * V_{gs}) / I_{ref}$$

$$R1 = 11,76393202 / 0,0000125 = 9,41^5 \Omega$$

$$V_a = 100 V, r_o = 8 * 10^6 \Omega, A_v = 147 V/V$$

**\*Valor teórico calculado. Valor de Iref com base na simulação é de 13,47 uA**

**\*\* RA de referência usado: 174725**